

REMARKS

Claims 1-19 are now pending in the application. Claims 1, 7, 8, 10, 15, 17 and 18 have been amended. Bases for the amendments can be found throughout the application, claims and drawings as originally filed and as such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. §102

Claims 1, 2, 3, 10 and 11 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,492,390 (Kugelmann). This rejection is respectfully traversed.

Applicant submits that Claim 1 has been amended to recite that the rim of the pulley includes an outer circumferential surface that defines at least one V-groove. Applicant submits that Kugelmann does not teach or suggest a pulley having a V-groove configuration and as such, Kugelmann cannot teach or suggest each element of Claims 1-3. Accordingly, Applicant submits that Kugelmann does not teach or suggest each element of Claim 1 and respectfully requests reconsideration and withdrawal of the rejection of Claims 1-3 under 35 U.S.C. §102(b).

Regarding Claim 10, Applicant submits that the claim has been amended to recite that the "the hydraulic cylinder [includes] a piston that reciprocates along an axis that is parallel to a rotational axis of the pulley". Applicant submits that Kugelmann does not teach or suggest a pulley having a hydraulic cylinder with a piston that reciprocates along an axis that is parallel to a rotational axis of a pulley and as such, cannot teach or suggest each element of Claims 10 and 11. Accordingly,

reconsideration and withdrawal of the rejection of Claims 10 and 11 are respectfully requested.

Claims 1, 8 and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,520,583 (Balingit). This rejection is respectfully traversed.

Applicant submits that Claim 1 has been amended to recite that the rim of the pulley includes an outer circumferential surface that defines at least one V-groove. Applicant submits that Balingit does not teach or suggest a pulley having a V-groove configuration and as such, Balingit cannot teach or suggest each element of Claim 1. Accordingly, Applicant submits that Balingit does not teach or suggest each element of Claim 1 and respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

Applicant notes that Claim 8 has been amended to recite that the opening is located in the outer circumferential surface of the rim of the pulley. In contrast, the Examiner has stated that the "gap between the two discs (3) [of Balingit] corresponds to 'an opening.' The segments (1) correspond to the 'inertia elements.'" Applicant notes that the movable segments (1) of Balingit form a part of the outer surface of a pulley and as such, they cannot be both the "rim" of the pulley and "inertia elements" that can extend through openings in the "rim". Accordingly, Applicant submits that Balingit does not teach or suggest each element of Claim 8 and respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

Applicant notes that Claim 9 recites that the inertia element moves from the extended position to a retracted position as the pulley increases in rotational speed. Applicant notes, however, that the pulley of Balingit is configured for low speed rotation

(so as to render the effects of centrifugal force negligible - see column 4, lines 56-59). Applicant further notes that the movable segments (1) of Balingit move radially inwardly in response to an increasing amount of torque transmitted through the belt (10) (i.e., their movement is not dependent on speed as is recited in Claim 9). Moreover, it is clear that the effect of centrifugal force on the movable segments (1), were the pulley of Balingit rotated at high rotational speed, would cause the movable segments (1) to move radially outwardly, not radially inwardly. Accordingly, Applicant submits that Balingit does not teach or suggest each element of Claim 9 and respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

REJECTION UNDER 35 U.S.C. §103

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 5,499,547 (Nagai). This rejection is respectfully traversed.

Applicant submits that the Office has not presented a prima facie case of obviousness as the Examiner has not determined the scope and content of the prior art, ascertained the differences between the prior art and the claims, or considered the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Rather, the Office has merely stated that "Kugelmann does not teach 'wherein said hub has at least one pair of brushes electrically connected to said actuators, said brushes positioned to engage with a pair of voltage rails transferring electrical energy to energize said actuators' and that "Nagai teaches a linear electric actuator using brushes attached to electrical contacts (56) to transfer electricity to the actuator" and that "it would have been obvious to one having ordinary skill in the art to modify the

pulley in Kugelmann with the linear actuator in Nagai to change the shape of the pulley since electricity is an inexpensive and readily available power source."

Applicant notes that it is wholly improper to simply combine elements of Kugelmann and Nagai in this manner, even if all of the elements of the present claims could be found in either Kugelmann or Nagai. In this regard, Applicant notes that the Supreme Court has stated that "[a]s is clear from cases such as *Adams*, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385, 1396 (2007). Moreover, in discussing the review of a determination of obviousness, the Supreme Court quoted from *In re Kahn* stating that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id*

Applicant submits that the Office has provided mere conclusory statements and has not provided the articulated reasoning and rational underpinning to support its conclusions. For example, the Office has completely neglected any discussion as to how the linear actuator of Nagai would be incorporated into wheel of Kugelmann. Significantly, the motor and ball screw (12) of the linear actuator of Nagai are disposed in a frame and a block (16) is moved in response to rotation of the ball screw (12) (see Fig. 3).

The Office has also neglected any discussion as to why the proposed modification would be desirable. As the Examiner knows, the Patent Laws draw a distinction between trade-offs and motivation to combine: trade-offs often concern what is feasible, not what is necessarily desirable, whereas motivation to combine requires

the latter. See, e.g., *Winner International Royalty Corp. v. Wang*, 2002 F.3d 1340, 53 USPQ2d 1580 (Fed. Cir.), cert. denied, 530 U.S. 1238 (2000).

Applicant notes that Kugelmann discloses that "[e]xtension of the ram rods 20-31 is accomplished through hydraulic, electrical, mechanical, pneumatic mean[s] or combinations thereof." Consequently, the statement that the desirability of the substitution of the linear actuator of Nagai for the extension rods of Kugelmann because "electricity is an inexpensive and readily available power source" cannot be sufficient justification for the modification because Kugelmann discloses electrically operated ram rods. In view of the above remarks, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 4 under 35 U.S.C. §103(a).

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 3,813,883 (Cords). This rejection is respectfully traversed.

Applicant notes that Claim 12 depends from Claim 10 and submits that Claim 12 overcomes the rejection under 35 U.S.C. §103(a) for at least the reasons expressed above for Claim 10.

Claims 13 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 5,722,909 (Thomas). This rejection is respectfully traversed.

Applicant notes that Claims 13 and 14 depend from Claim 10 and submits that these claims overcome the rejection under 35 U.S.C. §103(a) for at least the reasons expressed above for Claim 10. Additionally, Applicant respectfully submits that the

Examiner is incorrect in his assertion that the value specified in Claim 14 would be obvious to one of ordinary skill in the art. Applicant notes that the court of *In re Boesch* stated that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." *Id* at 205 USPQ 219 (emphasis added). Applicant submits that the Office's reliance on *In re Boesch* is misplaced as neither Kugelmann or Thomey appear to teach or suggest that engine speed is a result effective variable when changing a non-circular profile on a pulley to a circular profile on the pulley.

Claims 17, 18 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,722,909 (Thomey) in view of U.S. Pat. No. 5,492,390 (Kugelmann). This rejection is respectfully traversed.

Applicant notes that Claim 17 recites "altering the profile of the crankshaft pulley in response to a rotational speed of the crankshaft between a circular and a noncircular profile to generate a periodically occurring counteracting torque in the endless drive."

The Office has acknowledged that Thomey does not teach a crankshaft pulley having a configurable profile, but states that "Kugelmann teaches a pulley having a configurable profile between a circular and noncircular profile (Fig. 2) and generates a counteracting torque in response to engine speed (Col. 4, lines 17-67)." Applicant notes, however, that the words "torque" and "engine" are not employed in Kugelmann. Moreover, the section of Kugelmann is employed to describe the variable shape of a wheel and the maintenance of a particular wheel shape (e.g., the oval shape illustrated in Figure 2) in a desired orientation while the wheel is rotating. In the example of Figure 2 of Kugelmann, the oval shape is maintained in a fixed orientation (i.e., such that its

major axis is parallel to the ground 36) while the wheel rotates. Figure 4 of Kugelmann illustrates that while the shape may be reconfigured/reoriented as desired, the shape of the wheel (10, 60, 66) is not configured to rotate with the wheel. In this regard, the shape of the wheel 60 would not rotate (i.e., its major axis would be disposed vertically) after the wheel 60 has rotated through an angle of 90 degrees; the shape of the wheel 60 would not rotate into the orientation of the wheel 66.

Applicant notes that the Kugelmann does not reorient the shape of the wheel as a function of wheel rotation because specific goals are being achieved through the shape of the wheel. For example, the "short" oval shape of the wheel in Figure 2 was stated to provide greater contact between the wheel and the ground (36), whereas the "tall" oval shape of the wheel (60) in Figure 4 was stated to provide greater ground clearance.

In the context of a belt driven system, Kugelmann does not teach rotation of the wheel shape with the rotation of the wheel, but rather that the wheel shape should remain in a fixed position to control power transmission through the belt. For example, column 6 of Kugelmann describes controlling the shape to permit the belt to be removed and reinstalled without tools.

In view of the above remarks, Applicant submits that the Office has not presented a prima facie case of obviousness as the Examiner has not determined the scope and content of the prior art, ascertained the differences between the prior art and the claims, or considered the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Accordingly, reconsideration and withdrawal of the rejection of Claims 17-19 under 35 U.S.C. §103(a) are respectfully requested.

Claims 15 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 5,295,411 (Speckhart). This rejection is respectfully traversed.

Applicant notes that Claim 15 recites "said hub orienting means comprises a reference mark on an external surface of the pulley, wherein the reference mark is not configured to be engaged by an element that is fixed to the driving shaft." Applicant submits that the keyway of Speckhart is not a reference mark and is configured to be engaged by an element (i.e., a key) that is fixed to a driving shaft (i.e., the crankshaft). Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claims 15 and 16 under 35 U.S.C. §103(a).

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 5,499,547 (Nagai) and further in view of U.S. Pat. No. 4,559,512 (Yaeger). This rejection is respectfully traversed.

Applicant notes that Claim 5 depends from Claim 4 and submits that Claim 5 overcomes the rejection under 35 U.S.C. §103(a) for at least the reasons expressed above for Claim 4.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,492,390 (Kugelmann) in view of U.S. Pat. No. 5,499,547 (Nagai) and U.S. Pat. No. 4,559,512 (Yaeger) and further in view of U.S. Pat. No. 3,977,728 (Mitchell). This rejection is respectfully traversed.

Applicant notes that Claim 6 depends from Claim 4 and submits that Claim 6 overcomes the rejection under 35 U.S.C. §103(a) for at least the reasons expressed above for Claim 4.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,520,583 (Balingit) in view of U.S. Pat. No. 4,958,100 (Crawly). This rejection is respectfully traversed.

Applicant notes that Claim 7 has been amended to recite that the opening is located in the outer circumferential surface of the rim of the pulley. In contrast, the Examiner has stated that the "gap between the two discs (3) [of Balingit] corresponds to 'an opening.' The segments (1) correspond to the 'stacks.'" Applicant notes that the movable segments (1) of Balingit form a part of the outer surface of a pulley and as such, they cannot be both the "rim" of the pulley and the "stacks" that can extend through openings in the "rim".

Concerning the discussion of Crawly, Applicant notes that the Supreme Court has stated that "[a]s is clear from cases such as *Adams*, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385, 1396 (2007). Moreover, in discussing the review of a determination of obviousness, the Supreme Court quoted from *In re Kahn* stating that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id*

Applicant submits that the Office has provided mere conclusory statements and has not provided the articulated reasoning and rational underpinning to support its conclusions. In this regard, the Office has provided only conclusory statements and has cited *In re Leshin*, 125 USPQ 416, which Applicant notes addressed the obviousness of an article formed by a particular type of plastic where the other aspects of the article were known and the type of plastic was selected from known plastic materials for its particular characteristics. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 7 under 35 U.S.C. §103(a).

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

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Respectfully submitted,

By 

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